REMARKS

Reconsideration of the present application is respectfully requested. No claims have been added. Claims 1, 10, 11, 17, 19 and 23 have been amended to overcome the rejections based on second paragraph requirements of 35 U.S.C. 112. Claims 9-10 and 19 have been amended to overcome rejections based on 35 U.S.C. 101. Accordingly, claims 1-23 remain pending, and are believed to be in condition for allowance.

Allowable subject matter

Applicant thanks the Examiner for the level of work and analysis in denoting allowable subject matter of claims 12-16 (subject to overcoming the other rejections, which are discussed herein).

Objection to claim 11

Appropriate change has been made to eliminate the misplaced semicolon.

Rejections based on 35 U.S.C. § 101

Claims 1-23 were rejected under 35 U.S.C. 101 because the claimed invention purportedly either did not have a practical application and/or because it lacked a "useful, concrete, and tangible" result as set forth in *State Street*[1] and restated in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility section IV C. 2 b. (2) (p. 21 in PDF format), hereafter ("Guidelines"). These rejections are respectfully traversed.

After reciting various tests or standards applicable to complying with 35 U.S.C. 101, the Office states the following: "Claimed invention (Claims 1-8) recite a method for

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[1] 149 F.3d at 1373. The invention in *State Street* computed momentarily fixed share prices to allow recordation for accounting purposes, subsequent transactions and reports to regulatory agencies. This was deemed a practical application of a mathematical algorithm and the present invention is similarly directed to useful, concrete and tangible results

assigning indexes to one or more index-based resources comprising providing, directing, identifying, preventing, and allocating steps which do not provide useful, tangible and concrete results." See Office Action of 07/25/06, p. 4. The Office has incorrectly applied its recited analysis to the elements of a claim instead of to the claim as a whole. As stated in the Guidelines relied up by the Office, "USPTO personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered." *See* Guidelines, p. 9 (emphasis original).

Accordingly, the relevant question is whether Applicant's claimed invention as a whole recites a useful, concrete, and tangible result. Telecommunications switches contain internal data used to connect call. Some of these data are associated with indexes such as route-reference indexes (route lists), data-manipulation indexes, and trunk-group references, etc. In various settings, communications carriers must manage these indexes on a table or resource on an external system or network element (external resource) that is not physically managed by its software. Further, they must ensure that multiple applications accessing these tables do not accidentally utilize an index on the external resource that may be owned by another application. Moreover, because only a limited number of indexes exist on the resource, the indexes should be partitioned into ranges or pools that can be shared by some applications yet are not exposed to other applications. Although there are many, at least one practical, tangible, and useful result provided by an embodiment of the present invention the managing of index data that relates to various resources of a communications network, which in turn will facilitate reception of requests for new index allocations, and to allocate and deallocate these resources as needed, without duplicating assignments. *See* Specification, ¶ [0004] – [0006]. An illustrative practical application includes eliminating the possibility that an index will be nonuniquely allocated, thus preventing an index from being erroneously allocated to two or more network components. *See*

Specification, ¶ [0004] – [0006]. The following amendments have been made to more clearly

define the present inventing.

> The last of element of claim 1 now recites "<u>uniquely assigning said</u>
> <u>one or more indexes</u> to said one or more resources."
>
> The first element of claim 10 now recites "receiving one or more
> requests to identify one or more indexes available for allocation;
> wherein said indexes are to be respectively <u>and uniquely</u> associated
> with one or more network resources;"
>
> The first element of claim 17 now recites "an index-based-resource
> manager (IBRM) for receiving requests to manipulate indexes
> associated with one or more network resources <u>such that none of</u>
> <u>said one or more network resources is associated with a duplicate</u>
> <u>index</u>;"

Embodiments of the present invention, among other things, prevent multiple

resources from simultaneously using the indexes or from overwriting information improperly.

The index-based resource manager (IBRM) ensures the uninterrupted operation of a number of

network components through the allocation and deallocation of the indexes that those

components use. This provides correct routing of calls, accurate billing by carriers and a host of

other service and maintenance capabilities that were not available previous to the invention

through properly maintaining route tables, trunk lists and the like. Applicant asserts that all the

claims define a useful, tangible, and concrete result as well as include a practical application.

Moreover, the system in claims 17-23 provides a user interface with which to

manage the indexes along with the IBRM and a data store. In addition to preventing duplicate

assignment of indexes to resources, this has two-fold practicality and real-world use. Some

network components, such as switches, make extensive use of data tables without providing a

user interface with which to do so. The system provides a method for managing those

components that is simpler than the means available prior to the invention. The second layer of

application is drawn from the system's use as a tool to manage the methods of claims 1-9, in and

of themselves useful. The present invention is a practical tool that conserves resources, increases

efficiencies, and reduces mistakes.

Regarding the 101 rejection in light of Applicant's recitation of "modulated data

signal" in the specification, without conceding the Office's point, but to advance prosecution in

the case, where "computer-readable media" was previously recited, "<u>tangible</u> computer-readable

media" is now recited. Appropriate change has been made.

Rejections based on 35 U.S.C. § 112

Claims 1,10,19 and 23 stand rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Some latitude in the manner of expression and the aptness of terms should be

permitted even though the claim language is not as precise as the examiner might desire. MPEP

2173.02 [R-3]. Definiteness of claim language must be analyzed, not in a vacuum, but in light

of, among other things, the content of the particular application. *Id.* Here, Applicant's

specification is sufficiently detailed and adequately supports the claim. The Office states that

claims 1, 10, and 23 are incomplete. But Applicant is afforded the liberty of defining the scope

of his invention. To aver that the claim is incomplete is to impermissibly substitute the Office's

opinion of breadth of claim scope for Applicant's. Breadth of a claim is not to be equated with

indefiniteness. MPEP 2173.04. Only when a claim remains insolubly ambiguous with

discernable meaning after all reasonable attempts at construction must a court declare it

indefinite.

Regarding claim 1, respectfully, Applicant is unclear as to what the comments associated with rejecting claim 1 mean. But claim 1 has been amended to expressly recite assigning the indexes and also to state that the IBRM can perform some of the elements.

Regarding claim 10, four steps are recited that explain a method for managing the resources indexes. This claim is not insolubly ambiguous. The test for indefiniteness is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." MPEP 2173.02. Here, one skilled in the art would understand that managing including resource indexes would include receiving requests for indexes as claimed, querying to identify available indexes as claimed, denoting the to-be-allocated indexes as unavailable as claimed, and finally communicating the identified indexes where needed as claimed.

Regarding claim 19, the antecedent-basis issue of "said query" has been resolved.

Regarding claim 23, it now recites "utilizing" the system of claim 17 (to "uniquely" allocate indexes). This is a proper use claim. *See* MPEP 2173.05(q) under the heading "Board held step of "utilizing" was not indefinite."

Rejections based on 35 U.S.C. § 102

Claims 1-4, 8-11 and 17-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Teig (US 2003/0154210). Applicants respectfully traverse this rejection.

The invention of Teig refers to a logic synthesizer that transforms complex logic circuits into an optimized network. Sub-networks are stored in an indexed form based on the logic functions they perform and further are categorized by circuit parameters such as timing or size. The indexer and indexer manager of Teig's system are therefore distinguishable from the

IBRM of the present invention. The indexer and indexer manager cited in Teig simply search for a sub-network that produces a logical output for a set of inputs. The IBRM of the present application performs more robust functions as it assigns, manipulates and allocates the indexes of a communications network. Rather than merely searching, the IBRM determines what is and is not available for future queries by updating the status of one or more indexes once assigned to a network resource.

The process in Teig also is very different from that recited in claim 1, particularly with respect to the final two steps. As claimed, the method of the present invention involves the IBRM preventing the identified indexes from being modified so that the final step of the IBRM assigning the resources can take place. The invention of Teig refers to the these sub-networks as "stored in these tables in an encoded form," which infers the <u>inability to modify the sub-networks and indexes</u> prior to the indexer locating that set of one or more sub-networks. *See* Office Action of 07/25/06, p. 6. This is distinguishable from the present invention<u>, which by its very nature is dealing with indexes and tables of a dynamic nature</u>. Embodiments of the present invention prevent the modification of the data associated with the selected index or indexes while it has been assigned or allocated.

Furthermore, the final step in claim 1 of the present invention then assigns the one or more indexes to the network resource which needs to use the data connected to the one or more indexes. The one or more indexes are assigned for the duration that the network resources need that particular index or those required indexes. Again, this is distinguishable over the invention of Teig, which simply supplies a sub-network to perform a given function as required by the circuit logic. Teig's invention can assign the function or sub-network to as many circuits requiring that configuration as needed in order to optimize each respective design.

There are similarly distinguishable differences between claims 10 and 17 and the reference. The present invention differs from Teig in respect to the first step of the method embodied on computer-readable media. One or more requests are received to identify one or more indexes available for allocation. Under the invention of Teig, the indexer is simply trying to locate a set of static logic functions which operate in a manner consistent with the function requiring optimization. The indices of the invention in the reference are generated during pre-tabulation as a means to enhance the optimization process. However, Tieg does disclose allocation or deallocation, i.e. make available or make unavailable, such functions. The indexer and indexer manager simply provide the necessary results of a Boolean operation, if the needed sub-network exists.

Independent claim 17 patentably distinguishes over Teig at least because the invention in Teig neither prevents duplicate resource-index assignments in a networking environment, nor does it use an index-based resource manager. The indexer and index manager of the reference do not provide the same capabilities as the present invention.

Rejections based on 35 U.S.C. § 103

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teig (US 2003/0154210), in view of Gruber (US 6,115,793). Applicant respectfully traverses these rejections, and submits that they are moot at least based on the comments above; namely, that each feature of the base claims from which claims 5-7 depend are not disclosed in Teig. Indeed, all of the dependent claims that depend either directly or indirectly from the independent claims are allowable at least because each of the independent claims are now allowable.

But moreover, Applicant's claims are not obvious in light of the combination of Teig and Gruber. The notification of an "in use" flag in Gruber simply provides the cache

controller with information regarding the availability of physical memory blocks in the cache memory. This "in use" flag indicates the availability of free space, which may be used to write a memory block when not in use. Combining the teachings of Gruber with Teig would give the logic synthesizer the ability to indicate which portions of the database still have free space for the storage of sub-networks used in the optimization process. However, this would not provide a flag showing which portions of the database, already written and ready to be used for optimizing logic functions, would be available for the optimization process.

Furthermore, no motivation to modify Teig is found. If a proposed modification would render the prior-art invention unsatisfactory for its intended purpose, then there can be no suggestion or motivation to make the proposed modification. MPEP 2143.01, section V. Teig would not be operable for its intended purpose under the modifications of Gruber. In paragraph [0060], Teig teaches a logic optimizer that pre-tabulates the output of a logic circuit and does not generate any new sub-networks during the optimization step. When the logic optimizer is performing its intended purpose, it is searching for a logic function which can replace a more complex implementation of that logic. Teig then goes on to teach that more than one sub-network may perform the given function, so a query for additional sub-networks is performed. *See* paragraphs [0087-0089]. The ability of the logic optimizer of Teig to carry out its intended purpose – to create logic circuits which have desirable form, space or performance specifications – requires that each sub-network that can perform the function be available. If the sub-networks of Teig were unavailable per Gruber's "in use" flag, the logic circuit would not be able to replace logic functions with their optimal replacements.

CONCLUSION

Applicant respectfully submits that all pending claims are now in condition for allowance based on the foregoing remarks. Applicant respectfully requests the timely entry of

the above amendments and the passing of this application to issue. Should, however, any issues

remain prior to issuance of this Application, the Examiner is urged to contact the undersigned -

816-559-2173 or jcamacho@shb.com (such communication via email is herein expressly

granted) - to resolve the same. It is believed that no fee is due, however, the Commissioner is

hereby authorized to charge any amount required to Deposit Account No. 21-0765.

Respectfully submitted,

/Jesse J. Camacho/

Jesse J. Camacho
Reg. No. 51,258

JJC/jjc

SHOOK, HARDY, & BACON L.L.P.
2555 Grand Blvd.
Kansas City, MO 64108-2613
816/474-6550